

## ABSTRACT OF THE INVENTION

A method of forming a shallow trench isolation (STI) structure is disclosed. Instead of using a conventional chemical mechanical polishing (CMP), a wet etching is  
5 used in the present invention while forming a shallow trench isolation structure. By using the high selectivity of the wet etching, the thickness of the silicon nitride ( $\text{Si}_3\text{N}_4$ ) layer and the oxide layer in the shallow trench isolation structure can be decreased or controlled, and the micro-scratch caused by the chemical mechanical polishing can be avoided.